PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Docket No: Q62553

Jeong-hoon PARK, et al.

Appln. No.: 09/783,134

Group Art Unit: 2616

Confirmation No.: 1485

Examiner: Warner WONG

Filed: February 15, 2001

For: APPARATUS FOR TRANSMITTING/RECEIVING WIRELESS DATA AND METHOD THEREOF

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of $500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: December 13, 2006

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Samsung Electronics Co., Ltd. Assignment of the application was submitted in U.S. Patent and Trademark Office on May 16, 2001, and recorded on the same date at Reel 011803, Frame 0614.

II. RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 2, 5, 9-14, 18-22, 25, 29-34, 38-43, 45 and 46 are pending in the application. Claims 1, 2, 5, 9-11, 18-22, 25, 29-31 and 38-43 are rejected and are the subject of this appeal. Claims 1, 2, 5 and 38-43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gibson (USP 6,445,717) in view of Nakagaki (USP 5,657,316). Claims 9-11 and 18-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki and Puuskari (USP 6,728,208). Claims 21, 22 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki and Terho (USP 6,507,590). Claims 29-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki, Puuskari and Terho. Claims 12-14 and 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Claims 45 and 46 are allowed. All of the claims are set forth in the attached Appendix.

IV. STATUS OF AMENDMENTS

No claim amendments were requested subsequent to the Final Office Action of July 13, 2006.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a wireless data transmitting or receiving method. The method of claim 1 comprises (a) when a length of a collection of data in an application layer is longer than a length of a payload of a protocol, dividing the collection of data into a plurality of protocol units, and transmitting the protocol units of data after adding length information and location information of the data divided into the protocol units. (page 6, lines 7-15). The method of claim 1 further comprises (b) determining whether or not a loss of data has occurred, by referring to the length and location information of data divided into the protocol units in (a) (page 6, line 23 – page 7, lines 3; and page 8, lines 12-14), and if it determined that the loss of data from the protocol units has occurred, inserting blank data into a part corresponding to lost data to re-form the entire collection of data, transmitting to an upper layer the re-formed data and signaling to the upper layer an indication of whether or not the blank data is inserted (page 7, lines 3-7; and page 9, lines 4-6). The blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit (page 9, lines 1-3).

Independent claim 5 is directed to a wireless data receiving method wherein application data is divided into a plurality of predetermined protocol units, and a bit stream, in which length information and location information of data divided into the protocol units is added, is received (page 6, lines 7-15). The wireless data receiving method of claim 5 comprises (a) receiving the predetermined protocol units in a predetermined sequence, and checking whether or not data is lost, by referring to the length and location information of data added to each of the

predetermined protocol units (page 6, line 23 – page 7, lines 3; and page 8, lines 12-14). The wireless data receiving method of claim 5 further comprises (b) when the result of checking (a) indicates that data is lost from the protocol units, re-forming the collection of data by adding an amount of blank data equal to an amount of data lost, into a part from which the data was lost, and then transmitting the re-formed data to an upper layer and signaling to the upper layer an indication of whether or not the blank data is inserted (page 7, lines 3-7; and page 9, lines 4-6). The blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit (page 9, lines 1-3).

Independent claim 38 is directed to an apparatus for transmitting or receiving wireless data. The apparatus of claim 38 comprises a transmitting means for dividing a collection of data in an application layer into a plurality of protocol units, adding length information and location information of the data to a header of each unit and transmitting the protocol units (FIG. 2, elements 220 and 230; and page 6, lines 7-15). The apparatus of claim 38 further comprises a receiving means for determining whether or not data included in the protocol units is lost, by referring to the length and location information of the data added to the header of each of the predetermined protocol units received from the transmitting means, re-forming the collection of data by inserting blank data into any part from which data is lost and signaling to an upper layer an indication of whether or not the blank data is inserted (FIG. 3, elements 320 and 340; page 6, line 23 - page 7, lines 7; and page 9, lines 4-6).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Rejection of claims 1, 2, 5 and 38-43 under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki.

(B) Rejection of claims 9-11 and 18-20 under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki and Puuskari.

(C) Rejection of claims 21, 22 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki and Terho.

(D) Rejection of claims 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Gibson in view of Nakagaki, Puuskari and Terho.

VII. ARGUMENT

A. Rejection of claims 1, 2, 5 and 38-43

Appellant respectfully submits that claims 1, 2, 5 and 38-43 would not have been rendered obvious in view of Gibson and Nakagaki because the cited references, alone or in combination, do not teach or suggest all of the features of the claims, and one of ordinary skill in the art would not have been motivated to combine and modify the cited references to produce the claimed invention. In particular, Appellant respectfully submits that Gibson and Nakagaki, alone or in combination, do not teach or suggest "inserting blank data into a part corresponding to lost data to re-form the entire collection of data, transmitting to an upper layer the re-formed data and signaling to the upper layer an indication of whether or not the blank data is inserted", as recited by claim 1 and similarly recited in claims 5 and 38. Further, one of ordinary skill in the art would not have been motivated to modify Gibson based on Nakagaki to include this feature of the claimed inventions.

The Examiner cites column 4, line 57 through column 5, line 3 of Gibson for allegedly disclosing transmitting to an upper layer the re-formed data and signaling to the upper layer an indication of missing data. Although the Examiner concedes that Gibson fails to disclose inserting blank data into a part corresponding to lost data to re-form the entire data collection, the Examiner asserts that Nakagaki discloses this feature. Further, the Examiner asserts that "[i]t would have been obvious ... to include the determining of loss of data and inserting blank data

of Nakagaki for the transmission process of Gibson for the purpose of creating the original data length."[1] Appellant respectfully disagrees with the Examiner's position.

Gibson discloses a system for recovering lost information in a data stream. Data which is transmitted over the Internet or other transmission networks is first divided up into individual information packets, transmitted and then reassembled into useful data after reception. Parity packets are included in with the information packets in the transmission of data in order to enable the regeneration of any information packets which were lost or damaged during transmission. The information packets and parity packets are grouped to form a chunk. Bursts of lost packets are recovered by interleaving the transmission of packets from different chunks. If the recovery is not successful then retransmission occurs. (Abstract; and column 2, lines 8-25).

Although the Examiner asserts that Gibson discloses signaling to the upper layer an indication of missing data, Gibson simply discloses detecting missing packets and attempting to regenerate missing packets using parity packets.

Nakagaki discloses inserting divided user data into a fixed length data field of an ATM cell. (column 1, lines 26-30). As shown in Figs. 1 and 3A, each of ATM cells 123 includes a header 121 and the user data 122. (column 1, lines 26-30; and column 2, lines 6-7). Sequence numbers SN of the cells are attached to each of the user data 122, wherein the sequence numbers identify the order of sent ATM cells. When the received ATM cells have discontinuous sequence numbers SN, a receiving terminal can recognize the number of the lost cells. The original data length is be restored by inserting dummy data, e.g., all "zeros", of which length is

[1] July 13, 2006 Office Action at pages 2 and 3.

the same as that of data of the lost cell into the lost field, as shown in FIG. 3B. (column 2, lines 20-31). However, Nakagaki does not signal or provide any indication to an upper layer regarding whether or not the dummy data has been inserted, as required by the claims. That is, the upper layer has no way of knowing/determining whether the data it receives includes dummy data or actual user data since the actual user data may include, for example, a string of consecutive zeros.

Gibson's alleged disclosure of signaling to the upper layer an indication of missing data is not the same as and does not correspond to "signaling to the upper layer an indication of whether or not the blank data is inserted". Further, Nakagaki's disclosure of inserting dummy data for lost cells to restore original data length would not have motivated one of ordinary skill in the art to modify Gibson to signal to the upper layer an indication of whether or not the blank data is inserted. Since neither of the cited references teaches or suggests signaling to the upper layer an indication of whether or not the blank data is inserted, one of ordinary skill the art would not and could not have been motivated to modify Gibson to include this feature.

The Examiner asserts that motivation for modifying Gibson based on Nakagaki "is that it prevents the transmission devices to be out of sequence/phase when packets comprising synchronization fields are lost (Nakagaki, col. 2, lines 31-32)." However, the Examiner's alleged motivation completely ignores the fact that neither reference teaches or suggests signaling to the upper layer an indication of whether or not the blank data is inserted. That is, the Examiner does not provide any explanation why one of ordinary skill in the art would have been motivated to modify Gibson to signal to the upper layer an indication of whether or not the blank

data is inserted. Instead, the cited portion of Nakagaki (column 2, lines 31 and 32) simply addresses why the original data length is be restored by inserting dummy data for lost data.

Further, Appellant respectfully submits one of ordinary skill in the art would not have been motivated to modify Gibson based on Nakagaki "for the purpose of creating the original data length", as the Examiner contends, because the Examiner's proposed modification of Gibson would impermissibly change the principle of operation of Gibson's system and render it unsatisfactory for its intended purpose. In particular, Gibson aims to restore/reconstruct lost or damaged packets based on parity packets and remaining transmission packets and if the lost or damaged packets cannot be restored/reconstructed, the lost or damaged packets are retransmitted to the receive. Thus, modifying Gibson based on Nakagaki to insert dummy packets for lost or damaged packets "for the purpose of creating the original data length" would be contrary to Gibson's objective of recovering/reconstructing lost or damaged packets. However, it is well settled that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Similarly, if the proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the propose modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Lastly, on page 12 of the July 13, 2006 Office Action, the Examiner responds to Appellant's arguments for patentability. However, the Examiner does not provide any substantive reasons for the continued rejection of the claims other that stating the references are

combinable because "each of the references describe[s] a communication system, particularly for handling lost packet information."

Accordingly, Appellant that independent claims 1, 5 and 38, as well as dependent claims 39-43, should be allowable because the cited references, alone or in combination do not teach or suggest all of the features of the claims, and one of ordinary skill in the art would not have been motivated to modify Gibson based on the teachings of Nakagaki to produce the claimed invention.

B. Rejection of claims 9-11 and 18-20

Appellant respectfully submits that Puuskari does not make up for the above noted deficiencies of Gibson and Nakagaki. Accordingly, Appellant respectfully submits that claims 9-11 and 18-20 should be allowable over the cited references at least by virtue of their dependency on independent claims 1 and 5.

C. Rejection of claims 21, 22 and 25

Appellant respectfully submits that Terho does not make up for the above noted deficiencies of Gibson and Nakagaki. Accordingly, Appellant respectfully submits that claims 21, 22 and 25 should be allowable over the cited references at least by virtue of their dependency on independent claims 1 and 5.

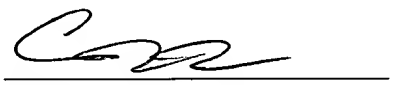
D. Rejection of claims 29-31

Appellant respectfully submits that Puuskari and Terho do not make up for the above noted deficiencies of Gibson and Nakagaki. Accordingly, Appellant respectfully submits that claims 29-31 should be allowable over the cited references at least by virtue of their dependency on independent claims 1 and 5.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Christopher R. Lipp
Registration No. 41,157

Date: December 13, 2006

Attorney Docket No.: Q62553

CLAIMS APPENDIX

CLAIMS 1, 2, 5, 9-14, 18-22, 25, 29-34, 38-43, 45 and 46 ON APPEAL:

1. (Previously Presented) A wireless data transmitting or receiving method comprising:

(a) when a length of a collection of data in an application layer is longer than a length of a payload of a protocol, dividing the collection of data into a plurality of protocol units, and transmitting the protocol units of data after adding length information and location information of the data divided into the protocol units; and

(b) determining whether or not a loss of data has occurred, by referring to the length and location information of data divided into the protocol units in (a), and if it determined that the loss of data from the protocol units has occurred, inserting blank data into a part corresponding to lost data to re-form the entire collection of data, transmitting to an upper layer the re-formed data and signaling to the upper layer an indication of whether or not the blank data is inserted, wherein

said blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit.

2. (Previously Presented) The wireless data transmitting or receiving method of claim 1, wherein in (a), the protocol is supported by a lower layer.

3. (Canceled).

4. (Canceled).

5. (Previously Presented) A wireless data receiving method wherein application data is divided into a plurality of predetermined protocol units, and a bit stream, in which length information and location information of data divided into the protocol units is added, is received, the wireless data receiving method comprising:

(a) receiving the predetermined protocol units in a predetermined sequence, and checking whether or not data is lost, by referring to the length and location information of data added to each of the predetermined protocol units; and

(b) when the result of checking (a) indicates that data is lost from the protocol units, re-forming the collection of data by adding an amount of blank data equal to an amount of data lost, into a part from which the data was lost, and then transmitting the re-formed data to an upper layer and signaling to the upper layer an indication of whether or not the blank data is inserted, wherein

said blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit.

Claims 6-8 (Canceled).

9. (Previously Presented) The method of claim 1, wherein in (b), when data in the first protocol unit of the plurality of protocol units is lost, not transmitting all of the protocol units to the upper layer.

10. (Previously Presented) The method of claim 2, wherein in (b), when data in the first protocol unit of the plurality of protocol units is lost, not transmitting all of the protocol units to the upper layer.

11. (Previously Presented) The method of claim 5, wherein in (b), when data in the first protocol unit of the plurality of protocol units is lost, not transmitting all of the protocol units to the upper layer.

12. (Previously Presented) The method of claim 1, wherein in (b), when data in a last divided protocol unit is lost, blank data of a length equal to a length of a preceding divided protocol unit is inserted, and then the data and information on the changed length is transmitted.

13. (Previously Presented) The method of claim 2, wherein in (b), when data in a last divided protocol unit is lost, blank data of a length equal to a length of a preceding divided protocol unit is inserted, and then the data and information on the changed length is transmitted.

14. (Previously Presented) The method of claim 5, wherein in (b), when data in a last divided protocol unit is lost, blank data of a length equal to a length of a preceding divided protocol unit is inserted, and then the data and information on the changed length is transmitted.

Claims 15-17. (Canceled).

18. (Previously Presented) The method of claim 1, wherein in (b), when the loss of data from the protocol units is determined, determining whether or not to transmit the data according to a characteristic of an application layer.

19. (Previously Presented) The method of claim 2, wherein in (b), when the loss of data from the protocol units is determined, determining whether or not to transmit the data according to a characteristic of an application layer.

20. (Previously Presented) The method of claim 5, wherein in (b), when the loss of data from the protocol units is determined, determining whether or not to transmit the data according to a characteristic of an application layer.

21. (Original) The method of claim 1, wherein the protocol is a radio link protocol (RLP).

22. (Original) The method of claim 2, wherein the protocol is a radio link protocol (RLP).

Claims 23 and 24 (Canceled).

25. (Original) The method of claim 5, wherein the protocol is a radio link protocol (RLP).

Claims 26-28 (Canceled).

29. (Original) The method of claim 9, wherein the protocol is a radio link protocol (RLP).

30. (Original) The method of claim 10, wherein the protocol is a radio link protocol (RLP).

31. (Original) The method of claim 11 wherein the protocol is a radio link protocol (RLP).

32. (Original) The method of claim 12, wherein the protocol is a radio link protocol (RLP).

33. (Original) The method of claim 13, wherein the protocol is a radio link protocol (RLP).

34. (Original) The method of claim 14, wherein the protocol is a radio link protocol (RLP).

Claims 35-37. (Canceled).

38. (Previously Presented) An apparatus for transmitting or receiving wireless data, comprising:

a transmitting means for dividing a collection of data in an application layer into a plurality of protocol units, adding length information and location information of the data to a header of each unit and transmitting the protocol units; and

a receiving means for determining whether or not data included in the protocol units is lost, by referring to the length and location information of the data added to the header of each of the predetermined protocol units received from the transmitting means, re-forming the collection of data by inserting blank data into any part from which data is lost and signaling to an upper layer an indication of whether or not the blank data is inserted.

39. (Original) The apparatus of claim 38, wherein the plurality of protocol units is supported by a lower layer.

40. (Previously Presented) The apparatus of claim 38, wherein the transmitting means comprises:

a data determining unit for comparing a length of the collection of data in the application layer with a size of a payload; and

a format processing unit for dividing the collection of data into a plurality of protocol units when the length of the application layer is longer than the length of the payload, and adding the length information and location information of the divided data to the header of each protocol unit.

41. (Original) The apparatus of claim 40, wherein the payload is of a format supported by a lower layer.

42. (Previously Presented) The apparatus of claim 38, wherein the receiving means comprises:

a packet extracting unit for extracting header information and payload from each protocol unit while transmitting data received from the transmitting means to the upper layer; and

a data processing unit for determining whether or not data included in the protocol units is lost, by referring to information on the length and location of data added to the header, and re-

forming the whole collection of data by inserting blank data into any part from which data is determined to be lost.

43. (Original) The apparatus of claim 42, wherein the data added to the header is extracted by the packet extracting unit.

44. (Canceled).

45. (Previously Presented) A wireless data communication method comprising:

(a) when a length of a collection of data in an application layer is longer than a length of a payload of a protocol, dividing the collection of data into a plurality of protocol units, and transmitting the protocol units of data after adding length information and location information of the data divided into the protocol units; and

(b) receiving the protocol units which are transmitted, determining whether or not a loss of data has occurred in the received protocol units, by referring to the length and location information of data divided into the protocol units in (a), above, and if it determined that data in a last divided protocol unit is lost such that a length of the last divided protocol unit is unknown, inserting blank data of a length equal to a length of a preceding divided protocol data into a part corresponding to the lost data to re-form the entire collection of data and then the data and information on the changed length is transmitted.

46. (Previously Presented) A wireless data receiving method wherein application data is divided into a plurality of predetermined protocol units, and a bit stream, in which length information and location information of data divided into the protocol units is added, is received, the wireless data receiving method comprising:

(a) receiving the predetermined protocol units in a predetermined sequence, and checking whether or not data is lost, by referring to the information on the length and location of data added to each of the predetermined protocol units; and

(b) determining whether or not a loss of data has occurred in the received protocol units, by referring to the length and location information of data in said bit stream, and if it determined that data in a last divided protocol unit is lost such that a length of the last divided protocol unit is unknown, inserting blank data of a length equal to a length of a preceding divided protocol data into a part corresponding to the lost data to re-form the entire collection of data and then the data and information on the changed length is transmitted.

EVIDENCE APPENDIX:

There has been no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other similar evidence.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.